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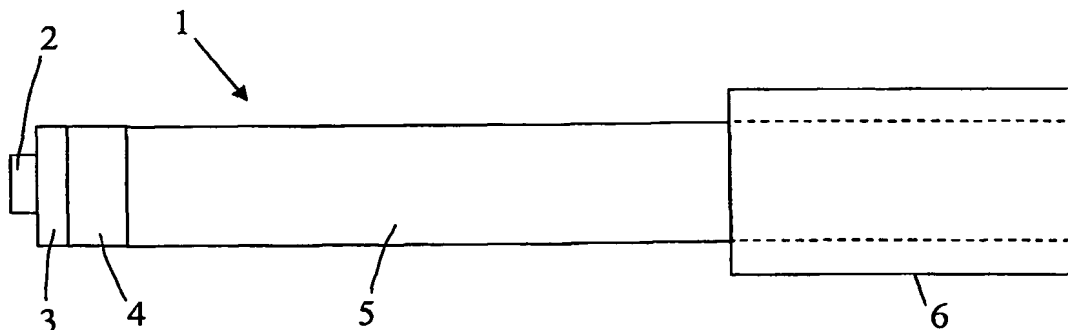
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(54) Title: COOLED LIGHT EMITTING APPARATUS



(57) Abstract: A cooled light emitting apparatus 1 comprises a light source including a close packed array 2 of light emitting diode devices (high intensity LEDs) and a cooling system for cooling the light source. The cooling system comprises a thermoelectric cooling device in the form of a Peltier device 4 connected via a heat spreader 3 to the light source and a heat exchange system 5, 6 for removing heat from the Peltier device 4. The heat exchange system 5, 6 uses liquid coolant (or refrigerant) to cool the Peltier device 4. By extracting heat from the LED array 2 at a rate greater than 5 W cm^{-2} it is possible to maintain the LED array at a temperature of less than -10 degrees Celsius, and thus emit light having an optical power density of greater than 1 W cm^{-2} .

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